

## REMARKS

Amended Claims 1-13 are presently pending. Claims 14-24 have been cancelled. Claims 25-28 have been added. Thus, Claims 1-13 and 25-28 are presently pending, and favorable reconsideration is respectfully requested.

### 35 U.S.C. §102(b)

The Examiner has rejected claims 1-3 under 35 U.S.C. §102(b) as being anticipated by Opoku (US 3,998,702).

The standard for an anticipation rejection under 35 U.S.C. §102 has been well established by the Court of Appeals for the Federal Circuit, and is summarized in M.P.E.P. § 2131. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). ... "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). ...

#### Claim 1

Claim 1, as amended, recites:

1. Apparatus for heating a bitumen froth by steam comprising:
  - a heater body comprising a bitumen froth inlet for receiving bitumen froth, a steam inlet for receiving steam, and a mixture outlet;
  - a baffle disposed across the mixture outlet; and

a static mixer body having first and second spaced apart ends and forming a passageway extending between the first and second ends, wherein the first end is in communication with the mixture outlet, the static mixer body supporting a plurality of baffles disposed to effect a mixing action of material flowing through the passageway thereof;

wherein the apparatus is operably configured to direct substantially all of the bitumen froth and steam out the second end of the static mixer body.

As explained below, Opoku fails to disclose an apparatus that is operably configured to direct substantially all of the bitumen froth and steam out the second end of the static mixer body, and therefore Opoku fails to anticipate Applicant's claim 1.

Opoku discloses a "hot water extraction separation cell launder which contains a plurality of steam injection means disposed therein for concurrently heating and deaerating ... bituminous froth" [col. 2, lines ]. However, in Opoku, steam added to the bituminous froth is allowed to escape from the hot water extraction separation cell launder. For example, the embodiment illustrated in Figure 2 of Opoku includes "exit means 33 which permits steam and air to separately vent from the conduit" [col. 3, lines 46-47]. Furthermore, Figures 3 and 4 illustrate steam injection means 46 that inject steam into a chamber that is open on the top. Opoku notes that Figure 4 is a top view [col. 4, lines 38-40], and therefore the illustrations of the steam injection means 46 in Figure 4 indicates that the steam injection means 46 are in a chamber that is open on the top.

On lines 18-24 of page 1 of the originally application, Applicant noted as follows:

Heretofore, the aerated bitumen froth is heated and de-aerated in large atmospheric tanks with the bitumen fed in near the top of the vessel and discharged onto a shed deck. The steam is injected below the shed deck and migrates upward, transferring heat and stripping air from the bitumen as they contact. The method works but much of the steam is wasted and bitumen droplets are often carried by the exiting steam and deposited on nearby vehicles, facilities and equipment.

Thus, Opoku is a type of prior art device discussed in the Background of the Invention in Applicant's application. Moreover, the unique structure recited in claim 1 as amended conveys at least one advantage over prior art devices such as Opoku, namely, that Applicant's development prevents waste of steam and disbursement of bitumen droplets in surrounding areas.

Applicant's disclosure includes a quantification of one aspect this advantage over the prior art. On lines 20-25 of page 5 of the originally application, Applicant noted that Applicant's invention enables heating 10,000 barrels per hour of bitumen froth using 80,000 pounds per hour of steam, compared to 125,000 pounds of steam that would be required in a prior art device, such as the device disclosed in Opoku.

In summary, Opoku fails to disclose an apparatus that is operably configured to direct substantially all of the bitumen froth and steam out the second end of the static mixer body, and therefore the Examiner's rejection of claim 1 under 35 U.S.C. §102(b) has been overcome.

#### Claims 2 and 3

Claims 2 and 3 depend directly on claim 1. Therefore, Applicant respectfully submits that claims 2 and 3 comply with 35 U.S.C. §102(b) due to their dependence on claim 1, and due to the additional subject matter that these

claims recite. Accordingly, Applicant respectfully submits that the Examiner's rejection of claims 2 and 3 under 35 U.S.C. §102(b) has been overcome.

### **35 U.S.C. §103(a)**

The Examiner has rejected claims 4-13 under 35 U.S.C. §103(a) as being obvious over Opoku (US 3,998,702).

#### **Claims 4-8**

For reasons given above in relation to claim 1, Opoku fails to offer any teaching, suggestion, motivation, or apparent reason to direct substantially all of the bitumen froth and steam out the second end of the static mixer body. Therefore, Applicant respectfully submits that claim 1 is not obvious in view of Opoku.

Because claims 4-8 depend directly or indirectly on claim 1, Applicant respectfully submits that claims 4-8 comply with 35 U.S.C. §103(a) due to their dependence on claim 1, and due to the additional subject matter that these claims recite. Accordingly, Applicant respectfully submits that the Examiner's rejection of claims 4-8 under 35 U.S.C. §103(a) has been overcome.

#### **Claim 9**

Claim 9, as amended, recites:

9. Apparatus for heating a bitumen froth by steam comprising:

a heater body forming a bitumen froth inlet for receiving bitumen froth, a steam inlet for receiving steam, and a mixture outlet;

a steam pressure flow control valve to control a pressure of steam supplied to the steam inlet from a steam source;

a condensate mixer operably configured to mix a condensate with the steam from the steam source;

a condensate flow control valve to control a supply of the condensate to the condensate mixer;

a steam flow control valve to control a rate of steam supply to the steam inlet from the steam source;

a baffle disposed across the mixture outlet; and

a static mixer body having first and second spaced apart ends and forming a passage extending between the first and second ends, wherein the first end is in communication with the mixture outlet, the static mixer body supporting a plurality of baffles disposed to effect a mixing action of material flowing through the static mixer;

wherein the apparatus is operably configured to direct substantially all of the bitumen froth and steam out the second end of the static mixer body.

Claim 9 is an independent claim that includes a similar limitation as claim 1, namely, an inline heater body operably configured to direct substantially all of the bitumen froth and steam out the mixture outlet. For reasons given above in relation to claim 1, Opoku fails to offer any teaching, suggestion, motivation, or apparent reason to direct substantially all of the bitumen froth and steam out the second end of the static mixer body.

Therefore, Applicant respectfully submits that the Examiner's rejection of claim 9 under 35 U.S.C. §103(a) has been overcome.

Claims 10-13

Claims 10-13 depend directly on claim 9. Therefore, Applicant respectfully submits that claims 10-13 comply with 35 U.S.C. §103(a) due to their dependence on claim 9, and due to the additional subject matter that these claims recite. Accordingly, Applicant respectfully submits that the Examiner's rejection of claims 2 and 3 under 35 U.S.C. §103(a) has been overcome.

Conclusion

Applicants have addressed all of the outstanding issues present in the application. Accordingly, the application is believed to be in condition for allowance. Should the Examiner identify any remaining issues that might prevent such allowance, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extensions of time, or credit overpayment, to Deposit Account No. 11-1410.

Respectfully submitted,

Knobbe, Martens, Olson & Bear, LLP

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